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TEACHING PHYSICIANS AND THE MEDICARE PROGRAM:

A CASE STUDY

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1.0 CASE STUDY OBJECTIVES

The Health Care Financing Administration (HCFA) began the five-year phase-in of the Medicare Fee Schedule (MFS) on January 1, 1992 to replace the usual, customary and reasonable cost-based reimbursement system used heretofore. Anecdotal evidence from academic practices suggests that teaching physicians believe they will be particularly hard hit by the MFS. Four reasons are commonly cited:

1. service mix. Teaching physicians perform relatively more high-technology procedures and less primary care. The change in relative prices associated with the RBRVS portion of the fee schedule will produce net losses for many practices.

2. geographic location. Teaching hospitals, generally, and medical schools, in particular, tend to be located in large urban areas. Payments to teaching physicians will be lowered because the Geographic Adjustment Factor used in the MFS lowers relative fees in these areas.

3. nonparticipating status. An unknown number of academic practices have not signed Medicare participation agreements. Future revenues will be reduced by the new balance billing limits accompanying the MFS.

4. historical payments. Academic practices assert that their customary charges are higher than the area-wide historical payments for fee schedule transition.

HCFA is interested in knowing the impact of the MFS on teaching physicians and has funded a three-year study with the Center for Health Economics Research (CHER) to examine the issues. The main purpose of this project is to evaluate the impact of the MFS on teaching hospitals and physicians. One approach is to conduct case studies of teaching hospitals and physician staffs.

The case studies provided us with an in-depth picture of how faculty practice plans are organized and the perceived impact of changes resulting from the MFS. In these case studies, we obtained information on the organizational dynamics of physician practice plans and the relationship between teaching hospitals and physicians that enabled us to examine the following research questions:

- What are the clinical and administrative relationships between the medical school, hospital, and faculty? What impact have the MFS or other recent Medicare program changes had on these relationships?

- How are teaching physicians compensated for their patient care, teaching, research, and administrative activities? Does the compensation method differ by specialty, faculty status, or other factors?

- Have faculty organization or compensation schemes been modified in response to the MFS or other changes in the Medicare program? Have faculty physicians sought membership or been encouraged to join practice plans because of the MFS or other changes in the Medicare program?

- Have faculty practices, medical schools, and/or hospitals changed physician staffing or assignments, and/or administrative practices as a result of the MFS or other changes in the Medicare program?

- What has been the impact of the MFS on funds available for medical education, faculty compensation, clinical program administration, and uncompensated care?

2.0 TEACHING HOSPITAL SAMPLE

HCFA is interested in knowing the impact of the MFS on teaching physicians and has funded a three-year study with the Center for Health Economics Research (CHER) to examine the issues. The main purpose of this project is to evaluate the impact of the MFS on teaching hospitals and physicians. One approach is to conduct case studies of teaching hospitals and physician staffs.

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- How are teaching physicians compensated for their patient care, teaching, research, and administrative activities? Does the compensation method differ by specialty, faculty status, or other factors?
- Have faculty organization or compensation schemes been modified in response to the MFS or other changes in the Medicare program? Have faculty physicians sought membership or been encouraged to join practice plans because of the MFS or other changes in the Medicare program?
- Have faculty practices, medical schools, and/or hospitals changed physician staffing or assignments, and/or administrative practices as a result of the MFS or other changes in the Medicare program?
- What has been the impact of the MFS on funds available for medical education, faculty compensation, clinical program administration, and uncompensated care?

Our criteria for the case study sample included the type of teaching practice (academic medical center, Council on Teaching Hospitals [COTH] affiliation, other teaching) the structure of the physician practice, the market area, and the willingness of the faculty to participate. We tried to pair an academic center with a community teaching hospital in each geographic area,

where possible. The study design included case studies of nine teaching faculties and their hospitals. The case study facilities were:

- University of Massachusetts Medical Center (UMMC)
- University of Texas Southwestern Medical School (UTSMC) and affiliated hospitals:
  - -- Parkland Memorial Hospital
  - -- Zale Lipshy University Hospital
- St. Paul Medical Center (SPMC)
- University of Illinois at Chicago (UIC)
- University of California-Davis Medical Center (UCDMC)
- Bowman Gray School of Medicine of Wake Forest University and North Carolina Baptist Hospital, Inc. (BGSM-WFU)
- Prince George's Hospital Center (PGHC)
- California Pacific Medical Center (CPMC).

The sample of facilities was diverse in terms of ownership, administrative structure, the graduate medical education program, and geography as shown in Table 1. It comprises five academic centers (four state-supported and one private university) and four community teaching hospitals.[1] Five of the hospitals were private not-for-profit, four were public institutions (three state-supported and one locally-supported). All university hospitals in the study had a practice plan for collecting and distributing clinical revenue. The non-university facilities used volunteer physicians to teach interns and residents; physician practice plans therefore did not exist. The facilities represent different regions of the country (Northeast, Mid-Atlantic, Southeast, Midwest, Southwest, West) and urban settings (large inner-city, large urban, mid-size urban, suburban). All hospitals are very large, except Zale Lipshy University Hospital, with bed size ranging from 938 at CPMC to 371 at UMMC. Furthermore, these

[1]The 5 academic medical centers are (1) UMMC, (2) UTSMC, (3) UIC, (4) UCDMC, and (5) BGSM-WFU. BGSM-WFU is not state-supported. Parkland Memorial Hospital is supported by the county hospital district. Zale Lipshy University Hospital is an independent, not-for-profit entity.

TABLE 1

CHARACTERISTICS OF CASE STUDY SITES

CASE STUDY SITE	Affiliated Medical School	Ownership Control	Academic Practice plan	Region (a)	Urban Status (b)	Acute Care Beds	Acute Care Admissions	GRADUATE MEDICAL EDUCATION: University Affiliation	GRADUATE MEDICAL EDUCATION: Accredited Residencies (e)	GRADUATE MEDICAL EDUCATION: Number of Residents
UNIVERSITY OF MASSACHUSETTS MEDICAL CENTER	U-Mass Medical School	State	Y	NE	mid-size	371	21,788	Y	23	460
PARKLAND MEMORIAL HOSPITAL	UT Southwestern Medical School	County Hospital District	Y	SW	large inner city	879	41,067	Y	22	843 (c)
ZALE LIPSHY UNIVERSITY HOSPITAL	UT Southwestern Medical School	Private NFP	Y	SW	large inner city	160	2,304	Y	6	31
ST. PAUL MEDICAL CENTER	UT Southwestern Medical School	Private NFP	N	SW	large inner city	426	15,688	Y	2	50
UNIVERSITY OF ILLINOIS AT CHICAGO	UI College of Medicine	State	Y	MW	large inner city	500	13,573	Y	28	965 (d)
UNIVERSITY OF CALIFORNIA DAVIS MEDICAL CENTER	UC-Davis School of Medicine	State	Y	W	large inner city	475	20,789	Y	22	550 (d)
BOWMAN GRAY SCHOOL OF MEDICINE, WAKE FOREST UNIVERSITY	Bowman Gray School of Medicine	Private NFP	Y	SE	mid-size	806	23,009	Y	21	411 (c)
PRINCE GEORGE'S HOSPITAL CENTER	–	Private NFP	N	MATL	suburban	447	15,200	N	3	53
CALIFORNIA PACIFIC MEDICAL CENTER	–	Private NFP	N	W	large	938	25,877	Y	5	135

NOTES:

(a) NE = NorthEast; MATL = MidAtlantic; SE = SouthEast; MW = MidWest; SW = SouthWest, W = West.

(b) Large = population > 500,000; mid-size = 100,000–500,000.

(c) Includes fellows.

(d) Includes residents rotating through affiliated hospitals.

(e) Does not include affiliated residency programs.

hospitals had high volumes (inpatient and outpatient). Parkland Memorial Hospital, for instance, had over 41,000 acute care admissions, followed by CPMC, BGSM-WFU, UMMC and UCDMC with more than 20,000 admissions each.

2.1 Graduate Medical Education Programs

The facilities we studied had graduate medical education programs that varied in size, structure, and administration. Many facilities (UIC, UCDMC, CPMC, BGSM-WFU, UTSMC) ran comprehensive educational programs that included graduate medical education, allied health education, and community education programs. The range in size of graduate medical education programs is exemplified by the program at the College of Medicine, University of Illinois at Chicago (UIC), the largest in the U.S., which trains 965 residents annually at the University of Illinois Hospital and affiliated hospitals and Zale Lipshy University Hospital, which trains only 31 residents on rotation from Parkland Memorial Hospital. Measured in terms of accredited residency programs, size of medical education programs ranged from 28 at UIC to only two at SPMC.

Three facilities ran residency programs that were not university-affiliated and were considered freestanding. PGHC has three residency programs (internal medicine, family practice, dentistry), but no other university affiliated programs. CPMC has five fully-accredited, freestanding programs (internal medicine, ophthalmology, pathology, pediatrics, psychiatry), four affiliated programs (surgery, orthopedics, radiology, otolaryngology) with UC-San Francisco, and one affiliated program (obstetrics/gynecology) with Stanford University. SPMC runs freestanding programs in internal medicine and surgery, and two UTSMC-affiliated programs (family practice, obstetrics/gynecology). Most affiliations tend to reflect a strategy to provide a broader array of physician training. For instance, UTSMC provides a wide selection of residencies in surgery, medicine, and primary care through its combined programs at Parkland Memorial Hospital, Zale Lipshy University Hospital, and SPMC. Residencies at CPMC reflect a strategy to combine tertiary care and primary care. (The California Campus at CPMC specializes in primary care and pediatrics while the Pacific Campus specializes in tertiary care.) Other strategies behind affiliations include expanding the number and type of teaching environments and type of patients for resident training.

The graduate medical education programs were administered through a central office (e.g., office of education) at most facilities, much like an office of education for any program found at a university. The central office is responsible for designing curricula, coordinating

rotation schedules for residents, negotiating compensation levels for residents, and recruitment of house-staff.

Salaries of residents in all graduate medical education programs in our study were paid by the hospital to which residents were assigned. At UCDMC, however, the costs for 271 of the 350 residents at the UC-Davis hospital were split by the hospital (60%) and the medical school (40%) while the remainder were fully covered by the hospital. (All academic practice plans contributed funds to the medical education program.) Medicare Part A DME and IME payments go directly to hospitals where residents are trained. DME payments are designed to cover the Medicare share of resident compensation, teaching physician supervision and administration costs, and overhead expenses. A hospital training residents will receive total DME payments equal to its per-resident amount times its total FTE resident count. Malpractice costs were also borne by the assigned hospital, except for affiliated residencies whereby the "parent" hospital would cover the costs. Fellowship expenses were usually paid by the hospital through a central funding mechanism. However, in some instances fellowship expenses were paid out of departmental collections.

Patient care is taught to residents under the "attending physician model" by which a faculty member supervises and instructs residents during each rotation. Patient care education includes weekly didactic activities (Morning Reports, Noon Conferences, Medical Grand Rounds), bedside attending rounds (i.e., floor rounds and work rounds with attending physicians), patient care lectures, and conferences that discuss particular cases and various aspects of patient care. Monthly didactic activities include case management rounds and conferences (e.g., clinical pathology, ambulatory care, morbidity and mortality, etc.). Residents are usually assigned to resident teams that are responsible for "staff service" patients--that is, those without a private physician. Resident teams provide night and weekend coverage at most facilities. A senior resident is responsible for the team under supervision by an attending physician. Third year residents are assigned staff service patients admitted from clinics in many programs.

Residents are exposed to a number of different training environments through their rotations, including inpatient hospital departments, outpatient clinics, and physicians' private offices (e.g., PGHC). Some programs also had residents rotate through VA facilities (SPMC, Parkland Memorial, UIC). In several university-based programs, residents serve on rotation at a private hospital which allows the resident to experience the practice of private sector medicine. Residents also are exposed to patients from all socioeconomic strata, including indigent and low income patients in outpatient departments and clinics during their rotations.

2.2 Physician/Hospital Relationship

The relationship between physicians and hospitals generally falls into two categories: (1) Salaried physicians at academic medical centers (UMMC, UTSMC (Parkland Memorial Hospital, Zale Lipshy), UIC, UCDMC, BGSM-WFU) who belong to an academic practice plan within their respective medical school, and (2) volunteer faculty at nonacademic medical centers who are primarily fee-for-service.

The basic structure of the academic practice plans was very similar. All practice plans had a governing board to set and enforce specific policies. Members typically include department heads, the dean of the college, and several at-large members. Each practice plan imposes a version of a "dean's tax" to support central functions and other school or department objectives (e.g., research, educational activities). In most plans, the dean's tax is applied to the difference in gross clinical receipts and departmental expenses (e.g., administration, billing and collection, malpractice). Physicians are compensated in a similar manner across plans. Physician compensation schemes are basically some variant of the Blakely x-y-z Plan which consists of a base salary component (x), a variable or differential component (y), and an incentive component (z). Most plans in our study have a base salary component (including fringes), equal to the salary of a full professor in the state, and a variable component. (A few also included an explicit incentive payment.) At BGSM-WFU, the only private medical school in our sample, the base salary component is determined through negotiation after comparison and review of physician salaries at other AAMC institutions. Part of physicians' base compensation derives from Medicare DME payments which are paid to the hospital for Medicare's share of physician costs for supervising residents and administering the medical education program. DME payments were transferred from the hospital to the school of medicine prior to physician payment. Teaching physicians are permitted to bill Medicare for Part B services. These Part B billings go into the department's clinical collections but are traced back to the individual physician for productivity monitoring and incentive payment distribution.

The billing process begins with the physician who completes a charge document for services provided to inpatients and ambulatory patients. Physicians at some facilities used forms or cards produced by the AAMC to assist them in their coding. At one site (UMMC), the practice plan developed an information grid to aid physicians with coding their charge documents. Most departments employed personnel to review the charge documents for completeness and procedure and diagnosis coding accuracy, gather other relevant documents such as operative reports, check charge documents against appointment and operative schedules to ensure all services are billed, batch the documents, and to place the documents for

courier pick up. The central billing office then sends couriers to collect the charge tickets and documents from each department. Next, the documents are prepared for data entry into the billing system. Preparation includes verification of data accuracy. All billing offices employed coding experts and other personnel responsible for coding accuracy based on physicians' notes and other documents. These personnel also manually prepare the patient abstract for procedure coding and pricing. In some practice plans, the physicians again review the abstracts for final approval before abstractors enter the information into the billing system. However, most billing offices do not require physicians' final approval for the final charge document. The level of physician responsibility for abstract accuracy does vary across plans and often by where the service was performed. For instance, at BGSM-WFU, Part B services provided in physicians' offices and clinics require greater accuracy by physicians because abstractors are not used in these settings.

After patient abstracts are entered into the billing offices' computer systems, insurance claims, patient statements, batch proofs, edit lists, aged trial balances, and all internal reports are generated. Most billing offices were filing Medicare claims electronically. The billing offices also employed patient account specialists to answer patients' inquiries about their bills. One billing office (at BGSM-WFU) consolidated all hospital and professional charges into a single bill for the patient. However, most billing offices did consolidate all professional charges across departments into a single professional service bill. UIC College of Medicine, on the other hand, does not use a centralized billing system. Fourteen out of 17 departments contract with outside vendors for billing and collection services. These vendors do not coordinate to combine their professional service bills for an individual patient into one bill (though the UIC College of Medicine is actively pursuing standardization and billing consolidation). All billing offices employed staff to collect payment from individuals and third-party payers.

Volunteer teaching physicians generally bill for professional services through their private practice offices. In some instances, the physicians may belong to a larger entity such as an IPA which conducts billing and collections functions. At CPMC, for example, many volunteer physicians belonged to an IPA prior to the merger between Pacific Presbyterian Hospital and Children's Hospital of San Francisco. Because of this merger, four groups of physicians--that were affiliated with these hospitals and part of different IPAs--formed a new, single IPA for CPMC called the California Pacific Medical Group (CPMG). Furthermore, the hospital and CPMG formed a Physician-Hospital Organization (PHO) governed by the California Pacific Medical Services Organization (CPMSO). The CPMSO also conducts all management and administrative activities for the CPMG regarding claims processing, contract negotiations, utilization review and provision of provider relations services, and patient

representative and billing services. The CPMG collects all funds from managed care contracts and distributes those funds to member physicians according to its compensation program. The CPMG, however, does not control CPMC physician fee-for-service income which flows through physicians' private offices.

Incentive structures did, however, differ significantly across faculty plans. At UIC and UMMC, for example, the incentive plans varied by department. UIC uses a model whereby department heads have full discretion to distribute incentive payments as part of the variable component from department residual earnings. That is, department heads determine incentive payments for physicians on a subjective basis which includes consideration of non-clinical activities. Approximately 75% of residual earnings were distributed to physicians as incentive payments. Less than ten percent of budgeted physician compensation is from incentive payments. UMMC, on the other hand, gives individual departments an option to contribute a portion of residual income to an incentive pool for eventual incentive payment distribution. Between 25 and 75 percent of residual clinical revenue becomes part of an incentive pool across departments. For some physicians, the incentive payments account for up to 10% of total compensation (e.g., pathologists). At BGSM-WFU, an "umbrella plan" was used which imposes increasing marginal tax rates on the highest collection levels, but does not place a ceiling on earnings. At UTSMC, on the other hand, incentive payments are made twice per year, but total earnings are capped at various levels depending on physician rank. UCDMC does not have a formal incentive plan, but rewards extraordinary performance through a negotiated differential component.

The relationship between physicians/medical schools and hospitals is undergoing dynamic changes. A more competitive environment is forcing a closer relationship within the framework of existing relationships. The two entities are now beginning to work more closely, sharing information, strategic plans, etc., in order to better negotiate managed care contracts. Reduced research funding and tightening of graduate medical education funding by payers is creating a shift in the priorities of teaching facilities. Specifically, the emphasis is tilting toward clinical activity to generate revenue for research and education program funding. Some medical schools have reacted to the changing environment by creating separate clinical tracks with minimal teaching responsibility and by modifying incentive plans to encourage clinical activity. The increased restriction on the flow of funds also has led to intensified internal negotiations between medical schools and the hospital regarding funding of overhead expenses and faculty research.

3.0 CASE STUDY FINDINGS

The main focus of the case studies was on the new Medicare Fee Schedule and its impact on teaching physicians and hospitals. However, other Medicare policies and private sector forces also have significant influence on graduate medical education in the U.S. and, consequently, were included in the case studies.

3.1 Medicare Fee Schedule

A major objective of the Medicare Fee Schedule is to provide equitable payments to providers of care based on costs of efficient practice. Payments were to become more equitable by increasing payment for cognitive services (e.g., evaluation and management services) while decreasing payments for surgical and diagnostic procedures. Another objective of the MFS was to provide a fee schedule that was both comprehensible and administratively tractable.

Physicians and administrators described a number of problems with the MFS as it applied to teaching physicians and hospitals and the practice of medicine. Although many physicians generally agreed with the basic RBRVS underpinning of the MFS, the system was considered in need of refinement. Among the most frequently mentioned MFS-related problems encountered by case study facilities during our site visits were:

- general administration
- increased documentation requirements
- coding changes
- procedure-oriented bias
- undervalued procedures
- nonrecognition of teaching component
- absence of a disproportionate share

Administration. Costs associated with administration of Medicare claims were cited as major problems at every facility we visited. These expenses included costs of training administrative staff, billing personnel, physicians and administrators. Several institutions sent personnel to local or regional training sessions sponsored by HCFA or various specialty societies on the MFS. Several institutions hired additional administrative personnel to review claims for compliance with Medicare rules. Other administrative expenses incurred, for example, included the creation of new charge and encounter documents for all procedure codes by UMMC. The UMMC forms contain a grid of information to guide the physician on procedure coding. Others (Parkland Memorial; Zale Lipshy) modified existing encounter

forms and cards. Several facilities upgraded their computer billing and collection systems at considerable expense to accommodate changes due to the MFS. Before actual MFS implementation, all academic medical centers either conducted an internal MFS impact study or contracted with an external consulting group to study the MFS impacts.

Results from the impact analyses in Table 2 varied widely by department, within and across facilities. However, comparison of these results must be interpreted carefully. Specifically, some analyses show the change in the collection percent of charges while others list the change in Medicare net revenue with or without Medicare beneficiary copayments. Furthermore, at UIC, for instance, the Department of Medicine conducted its own internal impact analysis, but no analysis was done at the medical college level. Nevertheless, total effects from the first year of MFS on medical colleges show losses ranging from -13.8% (UTSMC) to -5.0% (UMMC). Total effects from the MFS after full implementation become worse in two studies (-19.4%, UCDMC; -19.2%, BGSM-WFU) and improve in one (-1.5%, UMMC) in comparison to 1992. At the individual department level, the general conclusion from the impact studies is that surgery and radiology departments should expect large losses (e.g., surgery: UTSMC - 15.1%, BGSM-WFU - 10%, UCDMC - 11.5%, UMMC - 8.9%; radiology: UTSMC - 11.4%, UMMC - 10.9%.) The most significant prediction from these impact studies is the meager increase or loss for medical specialty departments. For example, the medicine departments in aggregate at UTSMC, UIC, and BGSM-WFU all predict losses in Medicare revenue. Even those medical centers predicting overall positive changes for medical departments have individual departments expecting losses. In general, estimates from these studies exceed HCFA estimated specialty impacts (Table 1, Federal Register, November 25, 1991).

Documentation. Physicians and administrators at every facility in our sample felt that documentation requirements were far too onerous in terms of required information, effort and time. The primary reason given to support this viewpoint was the complexity level of patients treated at teaching facilities. Most of these facilities treat large volumes of trauma patients or other patients with multiple systems involvement. Many argued that the marginal increase in reimbursement for higher level visit codes--levels 4 and 5--simply did not compensate for additional documentation effort and time. Several departments have experienced lost potential revenue from physicians' reluctance to code complex cases at the higher levels. The desire to minimize the probability of being audited by HCFA was another reason given for why some physicians, mostly volunteer faculty members, were not using higher level visit codes.

Other documentation problems have resulted from specific changes in procedure codes and other codes used by Medicare. For example, the number of ICU codes reimbursed by

TABLE 2

RBRVS IMPACT ANALYSES

Facility Name	Unit of Observation	IMPACT RESULTS (d) 1992	1996
UNIVERSITY OF MASSACHUSETTS MEDICAL CENTER	Group Practice Plan (c)	-5.0%	-1.5%
BOWMAN GRAY SCHOOL OF MEDICINE, WAKE FOREST UNIVERSITY	School of Medicine	-10.0%	-19.2%
UNIVERSITY OF ILLINOIS AT CHICAGO	Department of Medicine (c,d)	-9.3%	n.a.
UNIVERSITY OF TEXAS SOUTHWESTERN MEDICAL CENTER	MSRDP (e,f)	-13.8%	n.a.
UNIVERSITY OF CALIFORNIA DAVIS MEDICAL CENTER	School of Medicine	-7.6%	-19.4%
UNIVERSITY OF MICHIGAN MEDICAL SCHOOL (a)	Medical School	-5.5%	-4.7%
UNIVERSITY OF PENNSYLVANIA MEDICAL CENTER (b)	Department of Medicine	--	-25.5%

NOTES:

(a) Study by John E. Billi, et al. published in Academic Medicine Vol. 68, No. 5, May 1993.
(b) Study by David Shulkin, et al. published in JAMA Vol. 266, No. 21, December 4, 1991.
(c) Results include beneficiary copayments.
(d) All calculations assume no change in volume.
(e) Figure represents the change in collection percent of charges.
(f) Medical Service, Research and Development Plan. Figure represents actual impact for first 6 months of 1992.

Medicare was reduced to just two. Among those eliminated were critical care follow up codes. Physicians must now use code 99291 for the first hour of critical care on a given day, and 99292 for every additional 30 minutes of care. This particular change has created costly documentation confusion in at least one site we visited. New evaluation and management (E&M) codes have been the cause of an increase in both administrative expense and confusion. The transition from the old to the new E&M codes has not been smooth for physicians, billing personnel, or carriers. Delays in reimbursement were noted as carriers were not fully prepared for all changes associated with the MFS. However, administrative difficulties associated with the transition are expected to diminish over time.

Physicians and administrators at all facilities expressed frustration regarding documentation requirements. A common theme heard was that these requirements were too taxing in terms of time and effort, especially when compared to fee levels. Obviously, higher fees would serve to better "compensate" for the alleged greater effort required for documentation, but we were not explicitly told this nor can we speculate on what physicians deem as an "appropriate solution." Also, we could not discern whether documentation effort required of physicians and administrators differed by type of practice plan or teaching hospital.

Relative Value Units. The rational principle underlying the MFS is the relative value unit (RVU) assignment to several thousand physician services. Study participants at each institution gave fundamental criticisms of the MFS, claiming that RVUs and, hence, fees for cognitive services were still not properly aligned with those for surgical procedures and diagnostic tests. Evaluation & Management specialties were particularly concerned about the RVUs for cognitive services because of the complexity levels of patients typically treated at teaching hospitals. In other words, E&M specialties not only believe that cognitive services are undervalued in general, but systematically too low for the average complexity of cases for teaching physicians. Many anecdotes were given plus several examples were cited to support their contention that the MFS has a procedure-oriented bias. The higher conversion factor for surgical procedures in 1993 was noted. Cognitive services believed to be undervalued, intrinsically and in comparison to procedures, include most patient visits, observation time for patients in holding beds from the emergency room, and nursing home visits. For example, Table 3 shows that electrophysiologic evaluation of cardioverter-defibrillator lead and/or device (93640) had an RVU total of 6.53 in 1992. Through HCFA's formal review process, this procedure was considered undervalued and its RVU total was increased by 207% to 20.06 in 1993.

Criticism of the MFS was also levied by procedure-oriented specialties, most often from those specialties expecting the largest fee reductions. Specific examples raised by case study

participants are shown in Table 3. Many of the electrophysiology procedures discussed by study participants were adjusted upward substantially for 1993. Corneal transplant (65755) also received a sizable increase of 84.2% in total RVUs for 1993. Most other surgical procedures thought to be undervalued received nominal downward adjustments (as part of an across-the-board RVU reduction to maintain budget neutrality in 1993.)

Finally, a number of complex physician procedures do not have RVUs assigned and fall under the "not otherwise classified" or "unlisted" services category. Examples include microsurgery, exotic surgical procedures, and organ transplants. Some exotic procedures include limb reattachments and require multiple surgery teams. Teaching facilities with trauma centers were the most vocal about reimbursement for such procedures being far too inadequate.

Absence of Fee Adjustments. The MFS adjusts for geographic price differences in its three components--physician work, practice inputs, malpractice expense--using the Medicare Geographic Adjustment Factors (GAFs). However, teaching physicians criticized the MFS for failing to recognize teaching time and expertise. In particular, many patients require highly specialized services and physician expertise that can only be performed by teaching physicians at teaching hospitals. Furthermore, teaching physicians said that the MFS does not recognize teaching physician expertise or experience--the fee is the same regardless of the quality or experience of the physician (teaching or otherwise).

Another criticism of the MFS was the lack of a disproportionate share adjustment (DSH). Physicians in the five academic medical centers and PGHC argued that the MFS should include a disproportionate share adjustment, analogous to the disproportionate share adjustment paid to hospitals under PPS, when hospitals receive a DSH add-on to their PPS payments. Six of the facilities we visited treated high volumes of poor patients and four of these were located in large urban inner city neighborhoods.[2] Those physicians in academic practice plans specifically argued that treating high indigent caseloads minimized their ability to generate revenue for the practice plan and, hence, for the medical school. PGHC physicians, while not in a practice plan, cited the high indigent caseloads and the opportunity cost of treating such patients.

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[2]PGHC is located in suburban Washington, D.C. adjacent to the city. The local community and patient mix closely resembles that of an inner city hospital.

TABLE 3

SPECIFIC PHYSICIAN SERVICES PERCEIVED TO BE INAPPROPRIATELY VALUED BY STUDY PARTICIPANTS

Procedure Code	Description	TOTAL RVUs 1992	1993	Percent Change
15000	Skin graft, excisional preparation of site	5.96	5.79	-2.9% (a)
19318	Reduction mammaplasty unilaterial	32.86	31.95	-2.8% (a)
27130	Total hip replacement	54.73	53.21	-2.8% (a)
27132	Conversion of previous hip surgery to total hip replacement	61.28	59.57	-2.8% (a)
45135	Abdominal and perineal approach for excision of rectal procidentia	36.68	35.66	-2.8% (a)
46200	Fissurectomy w/wo sphincteromy	7.35	7.14	-2.9% (a)
47480	Cholecystectomy (incision of gallbladder)	18.17	17.66	-2.8% (a)
52500	Transurethral resection of bladder neck (TURP)	16.84	16.37	-2.8% (a)
58992	Lysis of intrauterine adhesions of resection of intrauterine septum	6.31	deleted	--
58996	Abdominal ablation	6.81	deleted	--
65755	Corneal wedge resection of surgically induced astigmatism	22.50	41.45	84.2%
66984	Extracapsular cataract removal w/insertion of intraocular lens prosthesis	30.34	29.49	-2.8% (a)
67040	Vitrectomy, mechanical, pars plana approach w/ endolaser panretinal photocoagulation	54.25	52.74	-2.8% (a)
93623 26	Stimulation, pacing heart	0.87	5.97	586.2%
93631 TC	Heart pacing, mapping	0.31	6.73	2071.0%
93640	Evaluation heart device	6.53	20.06	207.2%
93640 TC	Evaluation heart device	0.46	7.51	1532.6%
93640 26	Evaluation heart device	6.07	12.55	106.8%
93650 26	Ablate heart dysrhythm focus	13.02	35.19	170.3%
99303	Comprehensive nursing home visit	2.32	3.40	46.6%

(a) Reduction reflects an across-the-board reduction in all RVUs in the MFS to maintain overall budget neutrality in 1993.

SOURCE: Federal Register, Nov. 25, 1991; Nov. 25, 1992.

3.2 Other Medicare Policies

New and prior existing Medicare policies have affected teaching physicians and teaching hospitals. Study participants discussed the effects from the following policies:

- EKG Payment Policy
- UPIN Policy
- New Provider Policy
- Global Surgery Policy
- Medicare Participation Policy
- Copayment Policy
- Indirect Medical Education Payment Policy
- End-Stage Renal Disease Policy
- Medicare HMO Policy

EKG Payment Policy.[3] Congress passed legislation to eliminate Medicare payment to physicians for interpreting EKGs when part of a consult. That is, Medicare no longer pays for the professional component of EKGs. Cardiologists reported department wide losses of up to $0.5 million from this one policy. Many were concerned about the level of "enthusiasm" of physicians to read EKGs and the potential adverse consequences from changes in the flow of readings. At least one facility reported developing surgical backlogs from delayed or forestalled EKG readings. All facilities, including those experiencing EKG reading delays, claimed that cardiologists were now reading EKGs in a timely manner and that EKG losses were being "eaten" by physicians and the department. Another adverse effect from the EKG policy is the increase in number of cardiology consults to ostensibly recoup EKG payment losses. Most facilities recognized this potential, but only a few cardiologists acknowledged that this behavioral response had occurred within their department.

UPIN Policy. Accompanying the implementation of the MFS was the requirement that all providers submit their unique provider identification number (UPIN). This particular requirement implies that reimbursement will not be forthcoming unless the UPIN is provided. Most concerned are pathology departments that often do lab work for outside physicians. These departments must make sure that the referring physician provides his or her UPIN. All the pathology departments in our study had instituted administrative protocols for obtaining UPINs to minimize revenue losses. Thus, it appears that problems with the UPIN requirement will diminish over the MFS transition.

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[3]Under OBRA 10, effective 1-1-94, payments for EKG readings were re-instated. Our study period pre-dates this change.

New Provider Policy.[4] Physicians billing Medicare for Part B services less than five years are subject to lower reimbursement. Specifically, a new provider receives 80 percent of the full Medicare fee in the first year. The percentage increases by five each year for four years until 100 percent is reached. This policy was generally not of great concern to physicians at our study sites, except for three. UMMC argued that the criterion used to define a new physician was unfair to their 60-70 physicians that had extensive experience in the Veterans Affairs health care system. UMMC has filed a formal appeal to HCFA. The Pathology Department at the UIC College of Medicine stated that this policy was problematic because of its high turnover ratio due to competition from community practices. The New Provider Policy served to exacerbate this problem. Finally, UCDMC stated that its high percentage of new physicians coupled with competition from nonacademic practices led to worsened turnover and recruiting problems after implementation of the New Provider Policy.

Global Surgery Policy. Only two facilities thought that Medicare's Global Surgery Policy caused any difficulties--UMMC and UIC. This policy essentially bundles all reimbursement for the primary surgeon's services--before, during, and after the procedure--into a single payment. Another physician can perform and bill for the surgeon's post-op care only if the surgeon formally relinquishes control of the patient by assigning a reduced-services modifier to the procedure code. UIC physicians argued that this policy discourages multi-specialty team patient care and cited examples of conflicts between surgical oncologists and other oncologists regarding the bundled fee. UMMC physicians were concerned about competitive impacts from internal protocols developed around global surgery payments. Specifically, UMMC does not allow continued involvement or "concurrent care" by community physicians. As a result, UMMC has experienced situations where community physicians are referring their patients elsewhere to get "better deals."

Medicare Participation Policy. Physicians who sign the Medicare Participation form agree to accept fees under the MFS as payment in full (which includes the beneficiary 20% copayment). Nonparticipating physicians are constrained by law to the extent that they can "balance bill" Medicare patients. For 1992, this limiting charge could not exceed 120 percent of the MFS amount. In 1993, this limit was lowered to 115 percent of the MFS amount. The major concern with the limiting charge rule is that patient care access could be jeopardized. All medical faculty plans and most physicians in the nonacademic medical centers had already signed Medicare Participation agreements before January 1, 1992 ; therefore, patient care access

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[4]This policy includes physical and occupational therapists. Under OBRA 10, effective 1-1-94, Medicare's New Provider Policy was eliminated. Our study period pre-dates this change.

was not a problem at our study sites. However, many study participants told anecdotes about restricted access to care by Medicare patients, especially "new" Medicare patients, in the community. Several facilities were experiencing increased Medicare loads, thus lending indirect evidence to claims of restricted access to care to community physicians.

Copayment Policy.[5] Medicare beneficiaries are responsible for a 20 percent copayment on Part B services. Under Medicare policy, the provider must bill the beneficiary for the copayment amount to maintain the provider's allowed charge level. That is, Medicare will reduce a provider's full charge to the Medicare payment amount (80%) if the patient copayment amount is not charged. The source of concern involves low dollar value procedures such as minor radiology procedures. Physicians and administrators argued that the administrative expense of billing the patient the copayment amount exceeds the total copayment amount.

Indirect Medical Education Payment Policy. Medicare currently pays teaching hospitals an indirect medical education (IME) payment, or DRG add-on, of about 7.7 percent on average for every 10 percentage point increase in the intern & resident-to-bed ratio. Every hospital in our study was concerned about recent ProPAC recommendations to reduce the IME payment amount. Officials at several hospitals indicated that millions of dollars were at stake for graduate medical education if IME reductions were enacted. Although IME payments are designed to cover other, unidentified costs incurred by teaching hospitals, administrators indicated that IME payments were an important source of revenue for both the hospital and teaching program. Curtailment of IME payments, they feared, would have severe impacts on the teaching program such as reduced numbers of residents.

End-Stage Renal Disease Policy. Persons who have end-stage renal disease (ESRD) and require renal dialysis are eligible for coverage by Medicare beginning on the third month after renal dialysis treatments commence. PGHC physicians criticized the policy because an individual's Medicare coverage card expires monthly. Reapplication often leads to an interruption of care, deterioration in the patient's health, and more costly hospital admissions. Furthermore, physicians believe that the monthly requalification is too frequent because most ESRD patients are unlikely to go off dialysis unless either a kidney transplant is performed or they die.

Medicare HMO Policy. Under Medicare risk contracts, HMOs receive a payment for each Medicare enrollee that is set by formula to achieve cost savings for the HMO, Medicare beneficiaries, and Medicare. The payment is set at 95 percent of the adjusted average per

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[5]This policy will not be a concern to providers after the MFS is completely phased in.

capita cost (AAPCC) or projected per capita fee-for-service expenditures in the HMO's locality or service area, adjusted for age, sex, and institutional and Medicaid status of the HMO-enrolled population (PPRC, 1990). Medicare risk contracts are a cause of great concern for CPMC, UCDMC, and other California teaching hospitals because the AAPCC-based payment does not account for teaching costs separately. In other words, a special teaching component is not added to the payment, leaving the teaching hospital at ostensibly greater risk because of AAPCC capitated payments. Furthermore, the high HMO penetration in California, unlike most other areas of the U.S. where managed care does not have as strong a foothold, implies that a greater share of Medicare revenue will be reimbursed through Medicare risk contracts. The absence of a teaching adjustment to the capitated payments requires teaching hospitals to compete against nonteaching hospitals to a greater extent on a price basis, which is something major teaching hospitals feel cannot be done. In the long run, if negotiated HMO rates plus Medicare medical education payments do not cover the incurred costs of providing medical education, CPMC and UCDMC believe they will have to downsize or even eliminate their teaching programs.

3.3 Other

Most of the facilities in our study were very concerned about the growth in HMO enrollment and private payer reluctance to support medical education in managed care contracts. To many, the threat from the private market outweighed the implications from the MFS. Teaching hospitals feel besieged and are concerned about maintaining ongoing support for their teaching programs.

Physicians that did not belong to a faculty practice plan and were maintaining a private practice said that the threat to office lab revenue was more significant than changes emanating from the MFS. Specifically, these private practitioners claimed that stringent lab recertification requirements appeared designed with the intent to eliminate private office labs.

Finally, the local indigent care policy affecting many of the sites we visited was of great interest and concern to the respective facilities. For instance, UTSMC affiliated hospitals in Dallas, TX received public support through the hospital district for indigent care. UCDMC receives support through the Sacramento County Medically Indigent Patient Program. And UIC is the single largest provider of Medicaid in the State of Illinois. These facilities and others were concerned about growing numbers of uninsured and the potential impact from uncompensated care on the financial viability of their institution because of their reliance on local public funding.

4.0 DISCUSSION

The Medicare Fee Schedule signifies a drastic change in physician reimbursement policy. After little more than a full year, some important trends have emerged, many of which are difficult to disentangle from the impacts of other market forces and policies. Nevertheless, the MFS has had an impact on teaching physicians, hospitals, and graduate medical education.

Study participants perceived the following changes to be likely to occur because of the implementation of the MFS. (1) Worse than expected revenue changes, (2) restricted access to care for Medicare beneficiaries, (3) increased Medicare caseloads, (4) a growing number of cases mismanaged by community physicians, (5) increased administrative expense, and (6) growing physician frustration over documentation requirements. Other indirect impacts and trends include: (1) scaling back of teaching program "fringes," (2) closer cooperation between physicians and hospitals, (3) greater emphasis on clinical and research activities, (4) restructuring of physician compensation contracts, and (5) more managed care involvement.

Both hospitals and physicians have moved quickly to develop strategic plans in response to changes in the health care environment. A key element behind most of these strategies is improved and enhanced interaction between the physician faculty and the teaching hospital within the framework of their existing relationship. The two groups are beginning to work together to negotiate contracts with managed care payers, for example. Other examples include joint ventures, again within the existing relationship, to attract a better paying mix of patients, establishment of primary care networks to increase market share, improved incentives for more clinical activity by physicians, and promotion of the value of tertiary care medicine to private payers. Major teaching facilities in our study were working particularly hard to dispel notions that all teaching hospitals are the same and that house-staff allowed attending physicians to maximize income.[6]

Projections of the long run implications from the MFS and other forces based on current observed trends are as follows:

- reduction or elimination of some nonrevenue producing activities
- greater emphasis on clinical activity
- decline in research funding

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[6]Teaching physicians we interviewed claimed that training residents reduced their clinical productivity to approximately half that of a typical community physician. Furthermore, they told of higher levels of stress and anxiety in working with residents as opposed to experienced physicians.

- narrowing of income differentials between teaching and nonteaching physicians
- downsizing of most graduate medical education programs
- elimination of some teaching programs
- closer cooperation between physicians and hospitals
- increase in number of mismanaged cases

Extrapolating observed trends forward would suggest a sharp reduction in those activities producing little or no revenue (e.g., teaching, some types of research, charity care). Teaching of interns and residents does not generate revenue and is a likely target for reduction. Academic research will probably be curtailed, especially if current trends of diminishing research funds continue. Only the most lucrative research projects will be pursued. The corollary response is to increase revenue producing activities (i.e., clinical work) by providing stronger incentives for physicians. Many practice plans have already modified their incentive payment structure and some medical schools have created separate "clinical tracks." Stagnant growth or real declines in state funding for academic medical centers will only serve to accelerate these trends.

One possible long run outcome is the narrowing of income between teaching and nonteaching physicians. Greater demands for clinical activity by teaching hospitals will facilitate this phenomenon by (1) bidding up the compensation levels to encourage more clinical activity, and (2) indirectly encouraging teaching physicians to enter private practice. The second effect could result from teaching physicians leaving academic medicine for private practice to earn more income for clinical activity. In other words, such physicians may view the tradeoff between income and academic pursuits as less satisfactory in an academic setting with a greater emphasis on clinical activity. A mass "defection" of this sort could depress community physician incomes while simultaneously raising incomes for remaining teaching physicians. The final equilibrium would have narrower income differentials between teaching and nonteaching physicians.

Financial uncertainty for many teaching facilities might result in downsizing or even elimination of their teaching program. Freestanding facilities will be particularly vulnerable to policy changes that redirect and consolidate funding for medical education to academic medical centers. The eventual landscape of medical education programs will reflect both changes in national physician work force policy and impacts from market-driven forces.

Another trend that is likely to continue is closer cooperation between physicians and hospitals. Both entities will continue to work together, sharing information and negotiating together for managed care contracts. Negotiations will also involve internal issues such as support for overhead resources.

Finally, the battle over market share is likely to continue and intensify. Early anecdotal "evidence" obtained from case study participants suggests that nonteaching physicians will push or even exceed their limits of expertise, presumably to capture revenue. If true, a serious negative consequence from the battle over market share is that patients would be subjected to improper treatment from nonexperts, leading to additional physician encounters to remedy the condition. One positive aspect from increased competition for market share is that Medicare beneficiaries will face easier access to physicians, despite some evidence to the contrary. We predict that responses by some physicians to avoid or restrict Medicare patient services may only be short run "knee-jerk" reactions or protests to government administered pricing. Physicians will no longer have the luxury of refusing to see Medicare patients for more lucrative ones: they will have little choice but to accept Medicare patients if they are to remain economically viable.

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